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Applicant: Joseph Mosher et al. Examiner: N/A
Serial No.: 09/973,146 Group Art Unit: 2614
Filed: October 8, 2001 Docket: G&C 119.10-US-01
Title: METHOD AND SYSTEM FOR PROVIDING CONVERGENT NETWORK SERVICES

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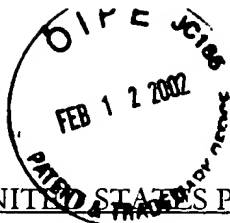
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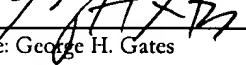
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Dear Sir:

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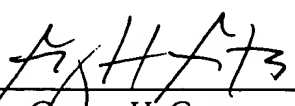
Canadian Patent Application Serial No. 2,322,614, filed on October 6, 2000

Respectfully submitted,

GATES & COOPER LLP
Attorneys for Applicant(s)

Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, California 90045
(310) 641-8797

Date: January 22, 2002

By: 
Name: George H. Gates
Reg. No.: 33,500

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G&C 119.10-US-01

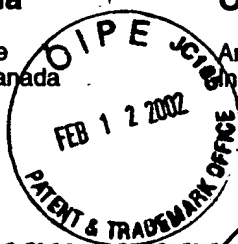


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Specification and Drawings, as originally filed with Application for Patent Serial No:
2,322,614, on October 6, 2000, by INNOVATEA, assignee of Joseph R. Mosher, Carla
MacNeil and Jillian Reid, for Method for Accessing Content, By Theme, Format or
Provider From Convergent Media Sources.

**CERTIFIED COPY OF
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(CIPO 68)
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- 1 -

Abstract

At the present time, consumers use multiple devices and methods to access:

- content from different mass media communications outlets; and
- content made available by providers in a number of different formats.

5 A news outlet, for example, may cover a single event with a simultaneous combination of television broadcast, radio broadcast, in-depth text/hypertext reports over the Internet and streaming video footage on a private Internet-Protocol (IP) "Fourth Network"¹. In order for a consumer to access all of the content available from content providers, (s)he must use different devices, each of which operates in
10 its own unique fashion.

If a consumer wishes to access a content provider's TV broadcast signal, (s)he has to remember the channel number or station call sign. To locate the provider's world-wide-web site, (s)he has to remember the URL or use a search engine or portal. Similarly, if a consumer wanted to access a radio broadcast, (s)he
15 has to remember the correct tuning frequency.

The Media Guide™ invention is a software component of a world wide web portal that will provide consumers with a mechanism to access content of various media types, from multiple content providers – Broadcast/Cable TV providers as well as Internet-focussed content providers. It is an on-line directory of content providers
20 who offer more than one media asset to consumers and it enables consumers to choose content from multiple convergent sources: Broadcast TV, the World Wide Web and streaming media (audio and video), video on demand (VOD) for example, within one navigation metaphor and one "Home" page.

25

¹ The "Fourth Network" is defined as the radio, TV, telephone & web mechanisms, other than the "traditional networks", through which society communicates, exchanges information or consumes entertainment. For example, people buy CDs & DVDs to watch movies, listen to music & play games, they subscribe to newspapers & magazines, buy books or borrow them from the library and rent videotapes. These archived media assets are examples of non-linear content types that have one to one relationships with consumers and exhibit characteristics such as "On-Demand" and "Always On". Their format also provides consumers with VCR-like control which allow users to start, stop, rewind & fast-forward content at any time.

- 2 -

Background

Content providers are faced with the challenge of trying to educate their consumers about the various media assets they have, their media types, where to find the assets and types, and what tools are required to access them.

5 In order to access all of a content provider's media assets, consumers must use multiple appliances and learn numerous navigation metaphors.

The invention relates to the creation of a centralized access and delivery point for consumers and media content providers. It simplifies the process of finding and viewing media content. It allows consumers to access various media assets
10 from the appliance of their choice.

Description of the related art

A number of attempts have been made to make the selection of television channels corresponding to a particular theme easier to accomplish:

- 15 • US Patent 5,673,089 and US Patent 5,886,746 (Yuen et al) disclose methods and apparatus for selecting channels on a television set by theme, using memory components contained in the television's remote controller.
- US Patent 5,596,373 (White et al) discloses a method and apparatus for simplifying the presentation of television programming information.
- 20 • US Patent 6,061,097 (Satterfield) discloses an interactive program guide (IPG) for television.

A number of attempts have been made to integrate or connect telephony, data, and television networks:

- US Patent 5,778,056 (Ely et al) discloses a method for connecting
25 information providers on a broadband network.
- US Patent 5,946,322 (Moura et al) discloses a hybrid network communications system.
- US Patent 5,999,612 (Dunn et al) discloses the integration of data and
30 telephony services on a cable network, where the integration takes place at the end user's PC, requiring him to have access to all of the disparate networks and to manage those interconnections himself.

A need is present to make the selection of content provider, content format (video/audio, Internet, telephony and email, fourth network) and content theme easier to accomplish on connected or integrated communications networks.

35

- 3 -

Summary of the Invention

The Media Guide invention employs software, which for the first time provides consumers with the opportunity to choose the media type they would like to view using the TV remote or PC. This capability has only recently been possible due to technological breakthroughs in broadband and Internet Protocol (IP) based networks.

The media assets indexed by the Media Guide invention will include broadcast channels (television or radio), TV-friendly websites, streaming video content, streaming audio content, text content and access to that provider's location in an Interactive Program Guide (IPG). These media assets will depend on the specific provider. For example, if a content provider has a television broadcast channel and streaming video content but does not have a TV-friendly website or additional assets, this provider may only offer the following options: TV, IPG and video.

The navigation structure is flexible, with the first implementation allowing consumers to choose by thematic categories such as – Sports, News & Information, Family, Music & Entertainment and Life & Learning. There will also be a category of “web-only” providers. These content providers offer popular websites that are TV-friendly and information rich but do not have additional media assets. The “Web” category will be further broken down into thematic groupings such as Cooking, Pets, Fashion, etc.

Benefits to content providers

Using this method, content providers can offer their audiences convenient access to all of their media assets. The Media Guide invention works as both a promotional and educational tool. Content providers will be able to advertise and offer new media assets to consumers through the Media Guide invention.

It enables broadcast/cable TV providers to extend their reach and scope beyond their traditional approaches.

It allows content providers to reinforce their brands.

It allows content providers to re-use assets they own or to which they have rights.

It offers content providers the potential for new revenue streams and business models associated with existing content.

- 4 -

It allows content providers to continue use of their existing telephone or television cable plant, without having to install a new Internet infrastructure.

Benefits to consumers

5 Consumers will have a convenient location to discover new media offerings from well-known content providers. The Media Guide invention aggregates all of a content provider's media assets into one location making it a valuable search tool for consumers.

10 The Media Guide invention enables consumers to access companion content to TV and other media assets.

Consumers have a single source for media and no longer have to use a different appliance for every type of media asset they want to access. (eg. TV, PC, radio)

15 Consumers no longer have to remember channel line-ups, complicated URLs, radio frequencies or which media player to download.

Consumers can easily find content from a specific content provider.

Consumers can easily move between different forms of media as opposed to switching between sources or physical appliances.

20 Network has improved security, and the connection between the end user and his portal may be a private connection (for example, a dial-up modem over a telephone line).

Detailed Description

25 The content provider/service provider determines the media types and assets to which it will offer consumers access.

Consumers select the content category they wish to access (eg: News, Family, Music, Entertainment, etc.)

30 The consumer is presented with the content providers available under that particular content category. The consumer selects a content provider and is presented with information about that particular content provider as well as the media types that (s)he can access from that source (eg: TV, streaming radio, web, video clips, audio clips, etc.).

- 5 -

When the consumer selects a media type (s)he is presented with a list of assets to view or access, for example:

- a broadcast TV channel (or a list of available channels if the Content provider has more than one);
- 5 • a web site; or
- a list of short video clips available to view.

A "web-only" category under the Media Guide invention promotes TV-friendly, information-rich web sites. The Content providers under this category would be those that have a web site only. This web only category is broken down into
10 thematic groupings such as Books, Entertainment, Music, Lifestyle, etc.

The preferred embodiment of the invention is as presented in the attached figures.

Depending on the implementation, there may also be advantages in applying the invention in the following manners:

- 15 • all communications are IP based but are not necessarily carried over the Internet;
- the main software is provided as a GUI (content is not web content), as opposed to a web site, that is, the invention is marketed not as a destination portal but software that will be sold to others which they load on their servers;
- 20 • STB (Set Top Box) is a standard device with a web browser. Customization is done by the portal downloading a customized HTML page (hypertext markup language) to the Set Top Box;
- "notifications" identified in **Figure 2**, refers to stripping the CLID (calling line identification) from an incoming telephone call and presenting it on the end
25 user's television screen or computer; otherwise the interaction of the invention with the PSTN (Public Switch Telephone Network) is generally as a conduit;
- the portal can make agreements to access network side services which avoids the logistical problems of small bills;
- 30 • the portal could store broadband content for redistribution on demand basis;
- use of an intermediate meta language as shown in **Figure 1**; and
- personal preferences could be stored on a server, providing a profile for each end user or account.

- 6 -

Other specific inventive aspects of the Media Guide invention include:

1. **Three - Axis Indexing:**

Access to content is indexed in three manners: mode, provider and theme. Typically, these three axes will be used as three different layers in the graphic user interface (GUI) though the ordering of the layers may be varied. Other portals, such as Gemstar, use a two - axis approach, for example, allowing the user to select by provider and theme but not mode. Other methods and systems known in the art may use two axes in combination but not all three.

Many implementations for example may use separate pairing of theme and provider but for different modes. Therefore, the user must switch from one mode to another, for example, going from personal computer to television to cellular phone, each device comprising a different mode.

The problem with the existing model is that end users have to shift to paradigms; they have to be aware of which plane they are on and where they want to go. The invention provides a solution by integrating access to make the various planes transparent to the end user, so he can move quickly, easily and seamlessly from one content provider or format to another.

The Media Guide invention preferably implements the three axes invention by providing:

- a way to access content;
- a way to index content; and
- a portal at the service provider which integrates the various contents.

Content providers may be under contract or licence, while some may become public domain. Some may provide the same content in more than one form, for example, providing video programming via both Real Audio™ world wide web (WWW) streaming, and also broadcast via television cable. Internet transmissions may provide the same content as the television broadcast, or enhanced content.

Having indexing that spans the networks, provides tremendous opportunities for new business and media models. For example, a television broadcast could direct a user to visit a worldwide web site. With the invention, the broadcaster's web site could now include a button for the end user to click on which would directly access a hyper text link opening a new window, a split screen or replacing the entire web page.

- 7 -

2. Content Conversion

The invention may be implemented as shown in Figure 1, wherein a driver mechanism is provided for each input and output. The selection and conversion of formats may be implemented using a common API (Application Programming
5 Interface), or meta language.

Inputs may, for example, include Internet protocol (IP), SS7, TV band transmissions, or radio band transmissions. Outputs may, for example, include WAP (Wireless Access Protocol), IP/XML (Internet Protocol/Extensible Markup
10 Language), IP/HTML (Internet Protocol/Hyper Text Markup Language) or Digital TV.

3. Logistics of Coordinating Networks

The invention provides a single point of contact for handling the logistics of billing and monitoring usage of services. Integration at the portal instead of at the end user's computer, as in the patent of Dunn et al, provides many advantages.
15

Note that, although certain manufacturers and content providers may have been referred to herein, the invention is not limited to any of these parties.

While particular embodiments of the present invention have been shown and described, it is clear that changes and modifications may be made to such
20 embodiments without departing from the true scope and spirit of the invention.

The method steps of the invention may be embodiment in sets of executable machine code stored in a variety of formats such as object code or source code. Such code is described generically herein as programming code, or a computer program for simplification. Clearly, the executable machine code may be integrated
25 with the code of other programs, implemented as subroutines, by external program calls or by other techniques as known in the art.

The embodiments of the invention may be executed by a computer processor or similar device programmed in the manner of method steps, or may be executed by an electronic system which is provided with means for executing these steps.

30 Similarly, an electronic memory medium such computer diskettes, CD-Roms, Random Access Memory (RAM), Read Only Memory (ROM) or similar computer software storage media known in the art, may be programmed to execute such method steps. As well, electronic signals representing these method steps may also be transmitted via a communication network.

- 8 -

The invention could, for example, be applied to computers, smart terminals, personal digital assistants, Internet or two-way pagers, satellite telephones, Internet-ready telephones or other Internet, television or telephony appliances. Again, such implementations would be clear to one skilled in the art, and do not take away from

5 the invention.

- 9 -

WHAT IS CLAIMED IS:

1. A method of converging networks comprising:
means for integrating access to make content planes transparent to user, whereby
end users do not have to shift paradigms, or be aware of which plane they
are on and where they want to go, in order to change content selection.
2. A method of content selection comprising:
providing a button on a web site, for the end user to click on, which would directly
access the www hyper text link opening the new content in the new window, a
split screen or replacing the entire web page.
3. A method of indexing that spans communications networks.
4. A method of converging networks comprising:
switching a selected inputs to an output; and
converting the format of the input content as required to suit the output.
6. A method of providing selection of multimedia services comprising indexing in
3 manners.
7. The method of claim 6 wherein said three manners include: mode, provider
and theme.
8. The method of claim 7 wherein said indexing is presenting in as different
layers in a graphic user interface (GUI).
9. The method of claim 8 wherein the ordering of said layers may be varied.
10. A method of providing selection of multimedia services in which the end user
need not switch from one mode to another
11. The method of claim 10 comprising:
a way to access content;
a way to index content; and
a portal at a service provider which integrates the various contents.

- 10 -

12. The method of claim 11 wherein said step of converting is performed using a software driver with a common API (Application Programming Interface).
13. The method of claim 12, further comprising the step of handling the logistics of billing and monitoring usage of services in an integrated manner.
14. A method of providing convergent media content comprising integrating searching with back end logistics to manage various content formats and providers.
15. A system for providing convergent content including a standard Set Top Box with a web browser, customized by downloading a customized HTML page from a portal to said Set Top Box.
16. A system for providing convergent content including means for storing broadband content for redistribution on demand basis.
17. A system for accessing Multi Media services comprising:
a portal connected to multiple media sources and connecting various formats to IP or encrypted television broadcast bands.
18. A mass communication service system comprising:
an end user terminal;
a service provider; and
a communication network connecting said end user terminal and said service provider;
said service provider being operable to:
integrate mass communication services; and
index mass communication services (present as a graphic user interface or GUI to end user).
19. A system for executing the method of any one of claims 1 through 14.
20. An apparatus for executing the method of any one of claims 1 through 14.

- 11 -

21. A computer readable memory medium for storing software code executable to perform the method steps of any one of claims 1 through 14.
22. A carrier signal incorporating software code executable to perform the method steps of any one of claims 1 through 14.

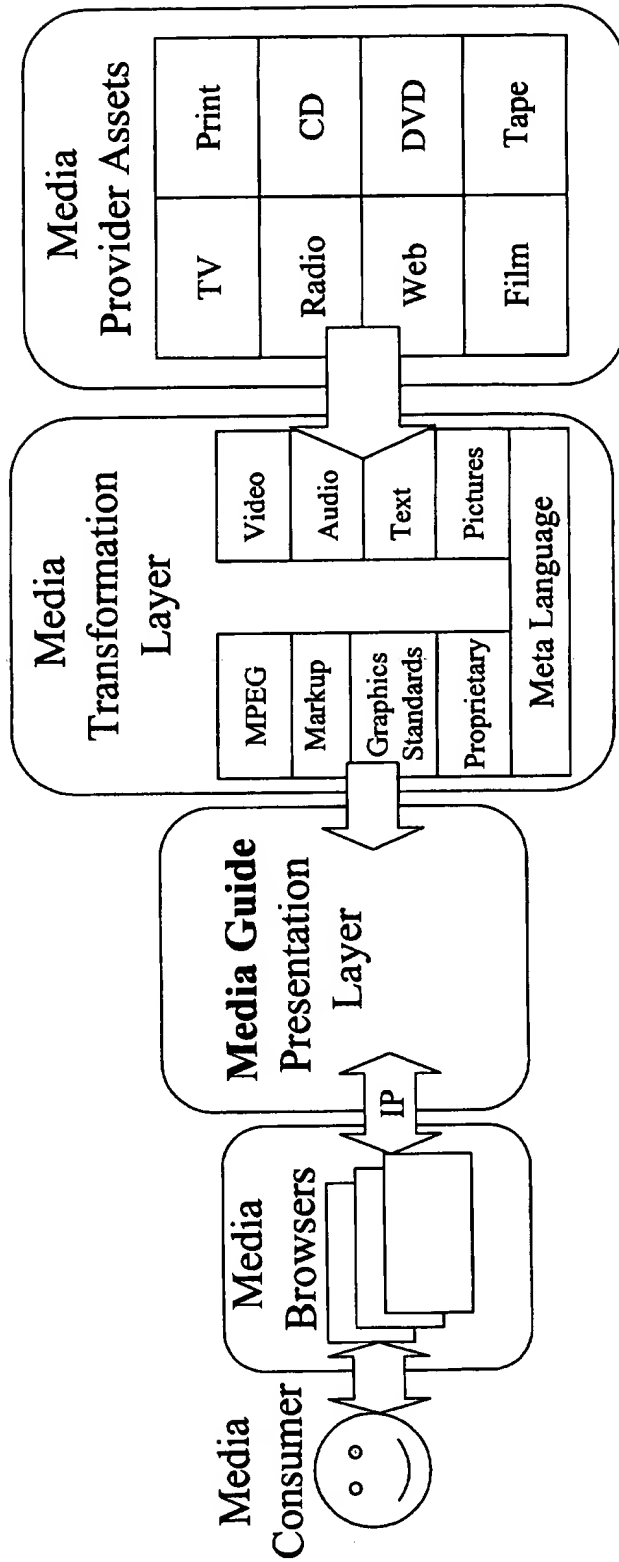


FIGURE 1

Full Motion Portal Architecture

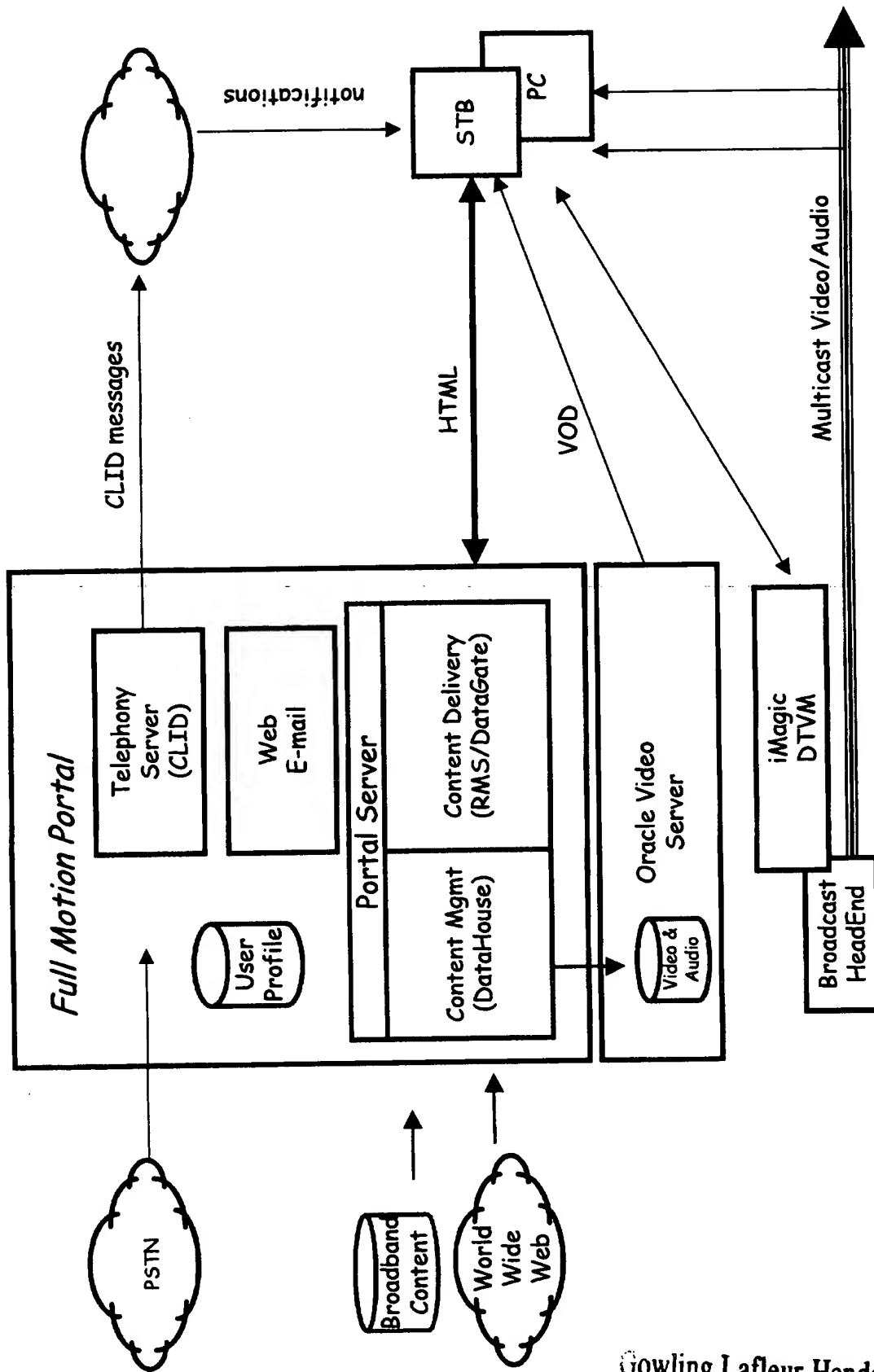
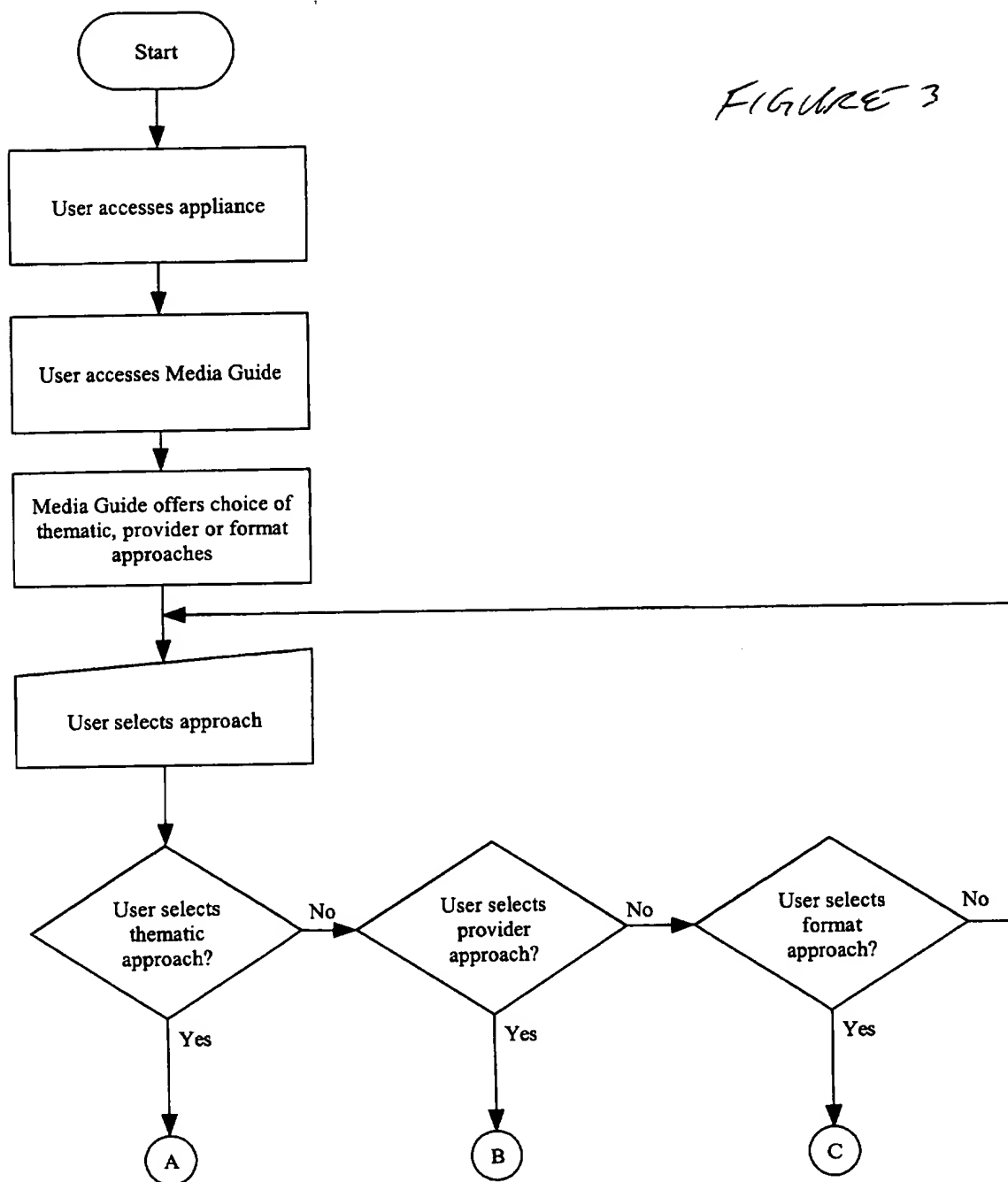


FIGURE 2

FIGURE 3



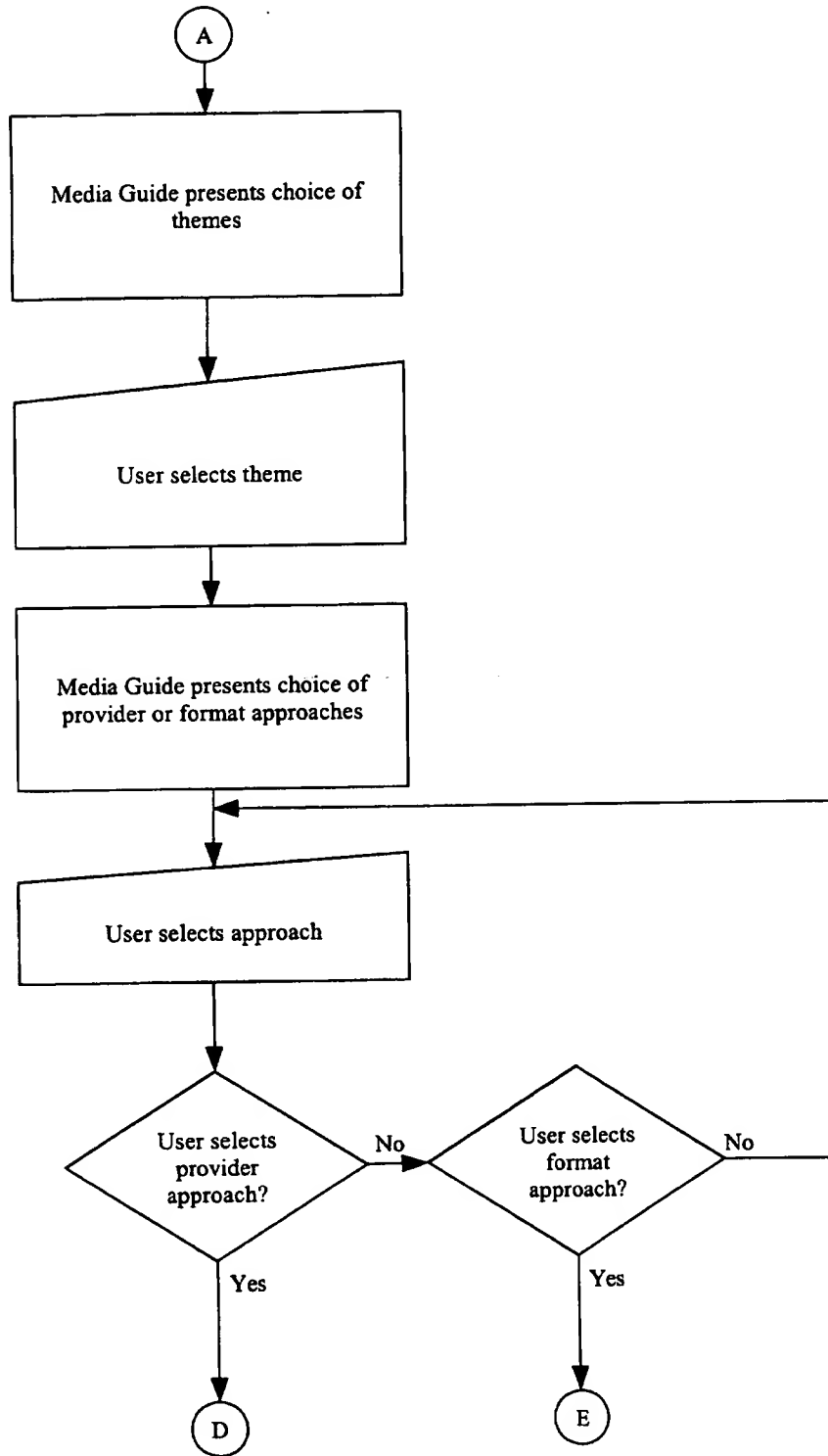


FIGURE 4

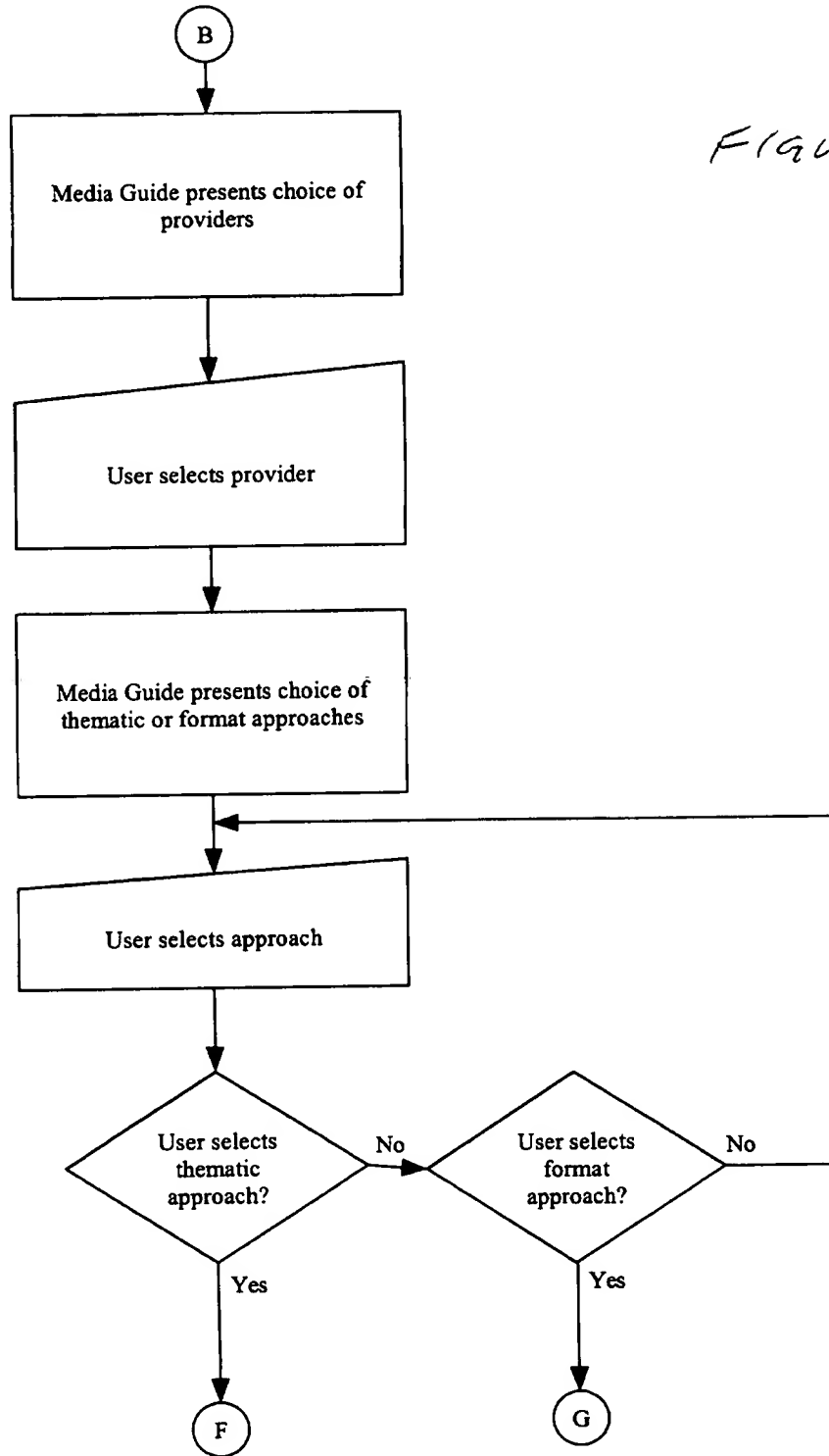


FIGURE 5

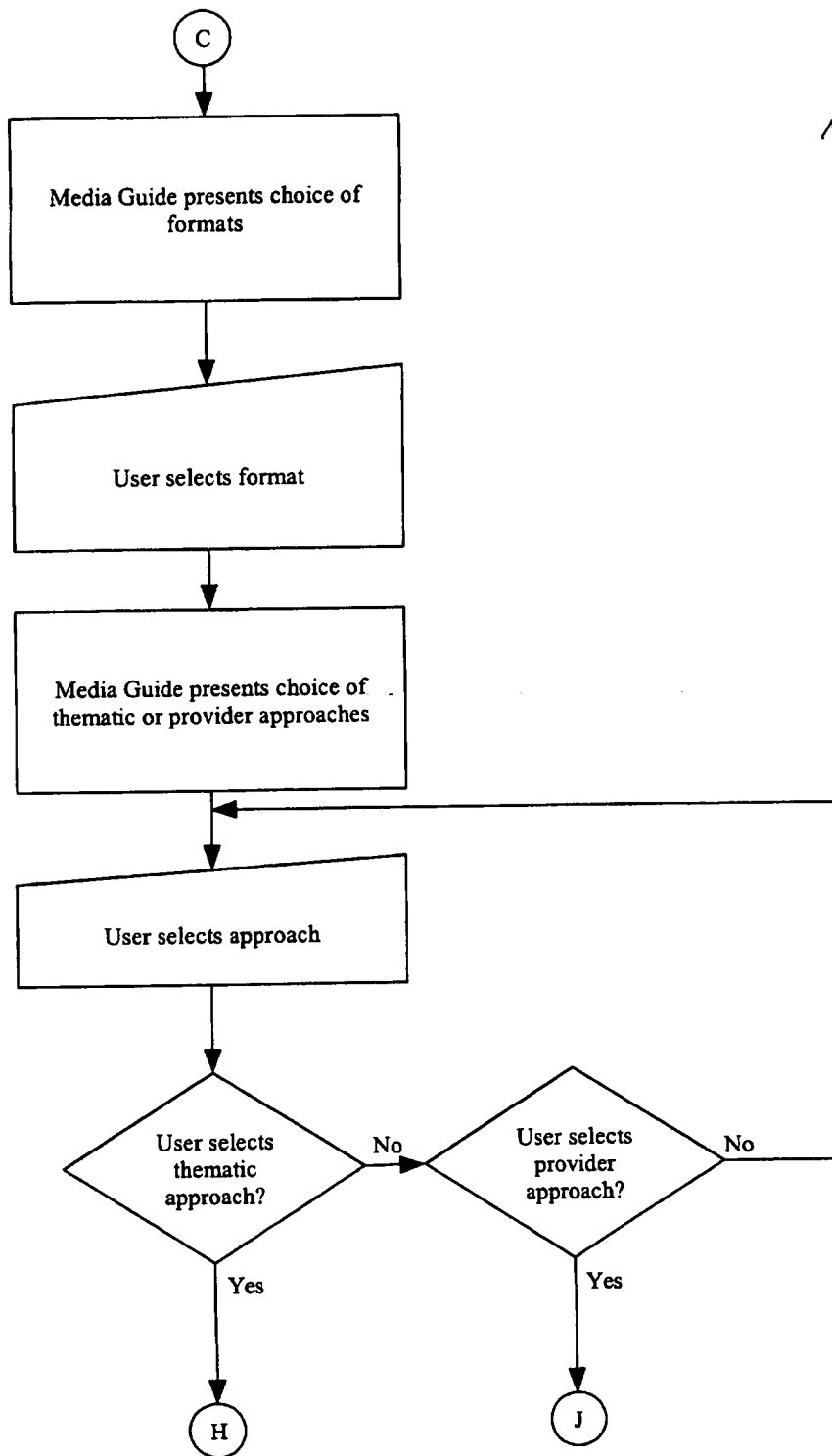
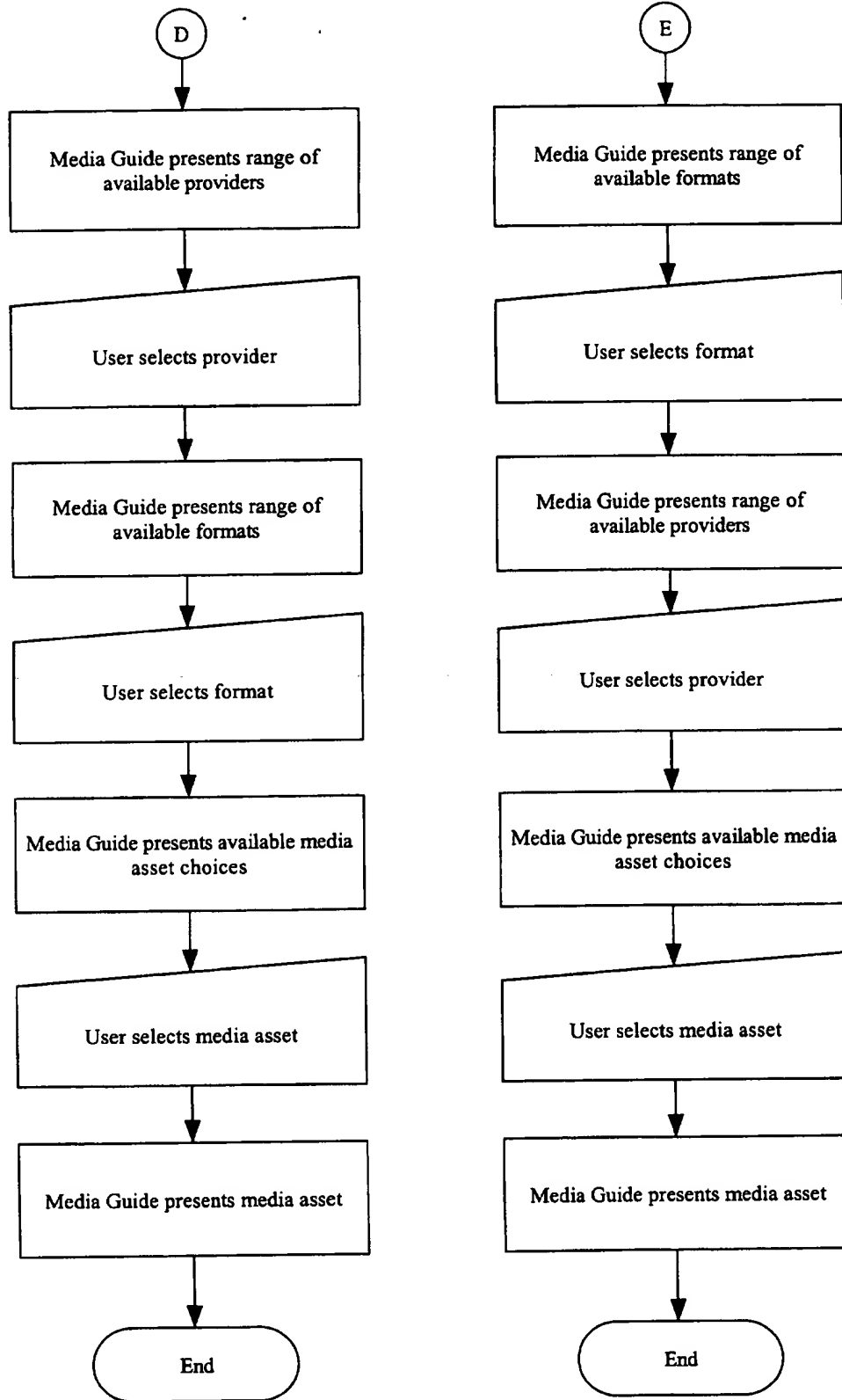


FIGURE 6

FIGURE
7

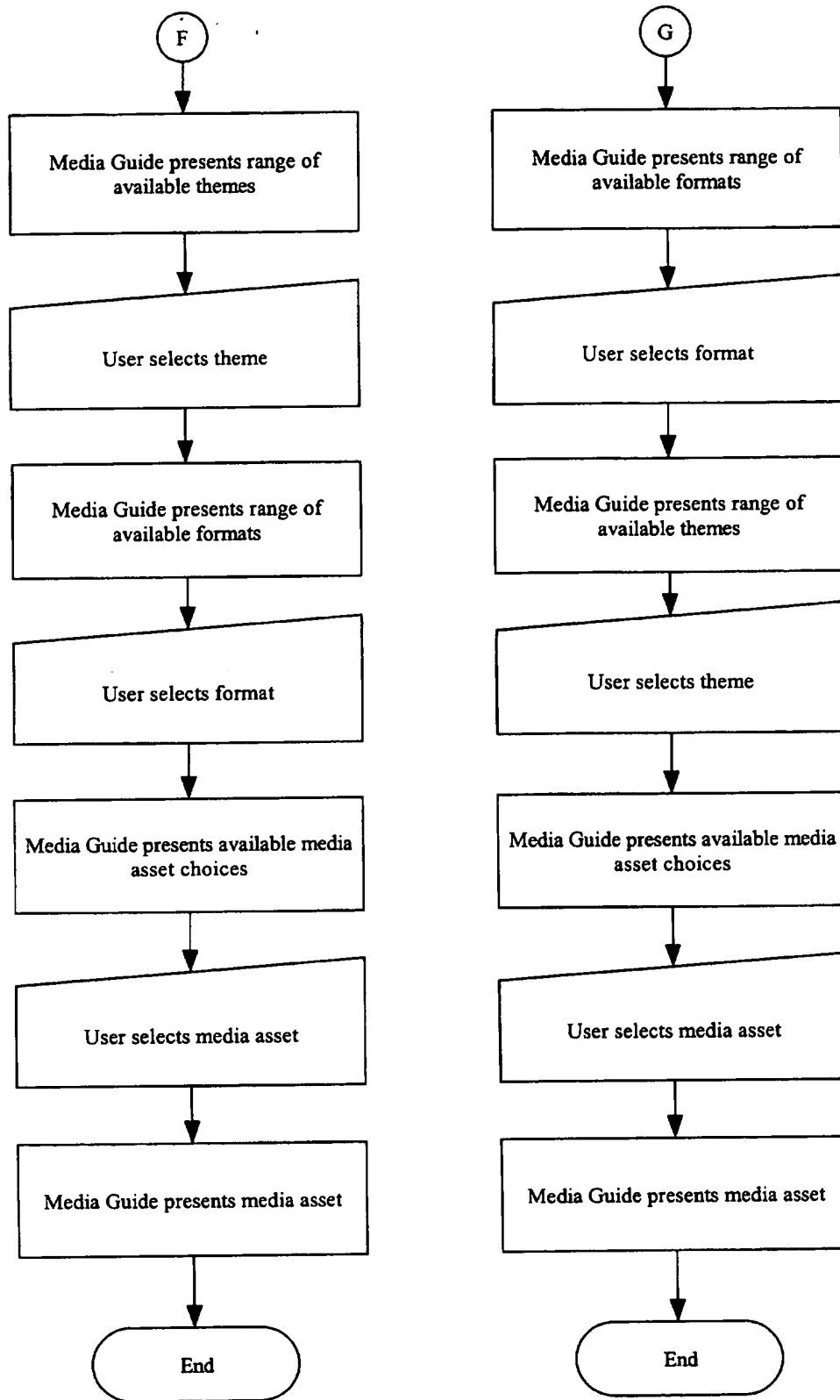


FIGURE
8

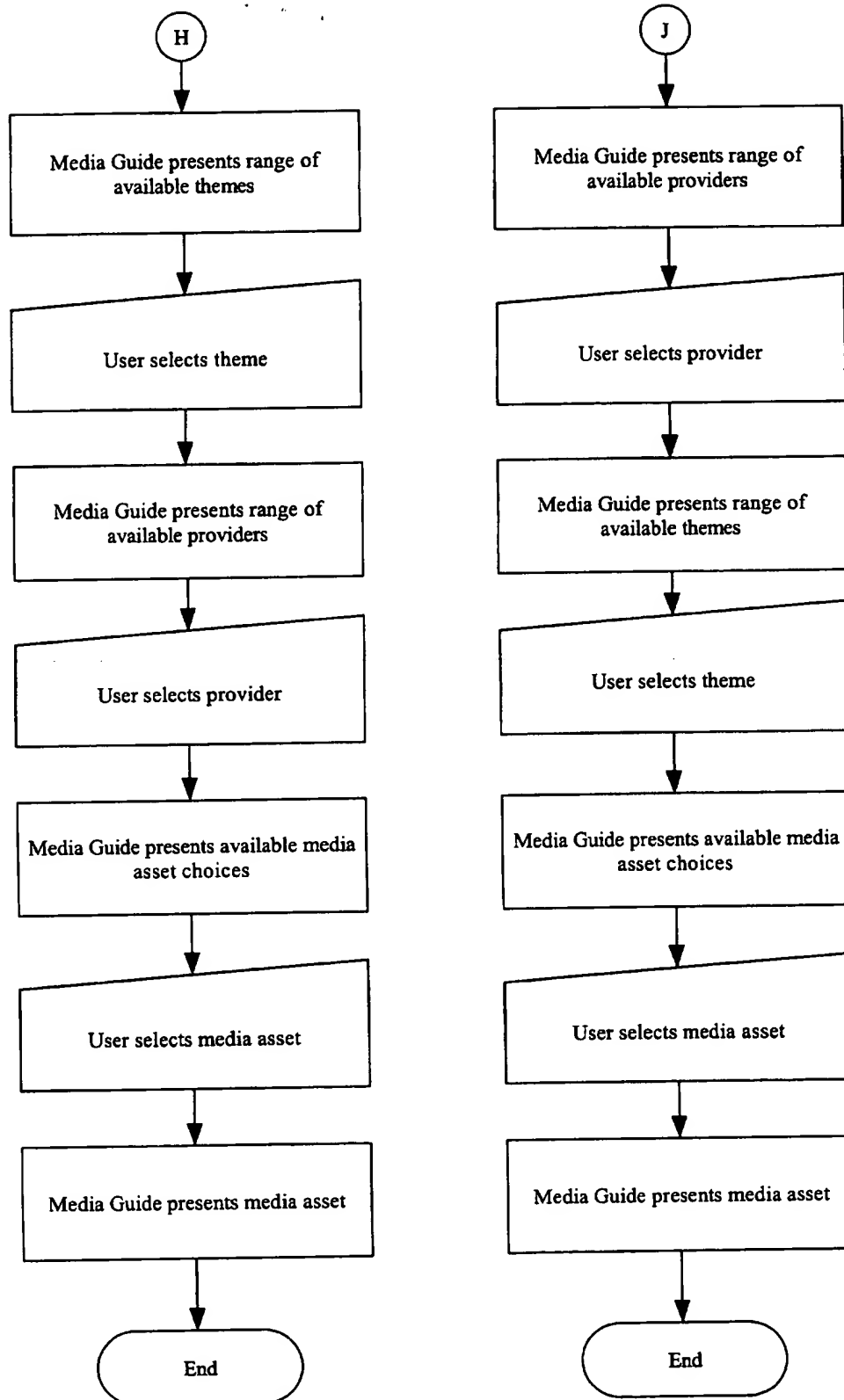
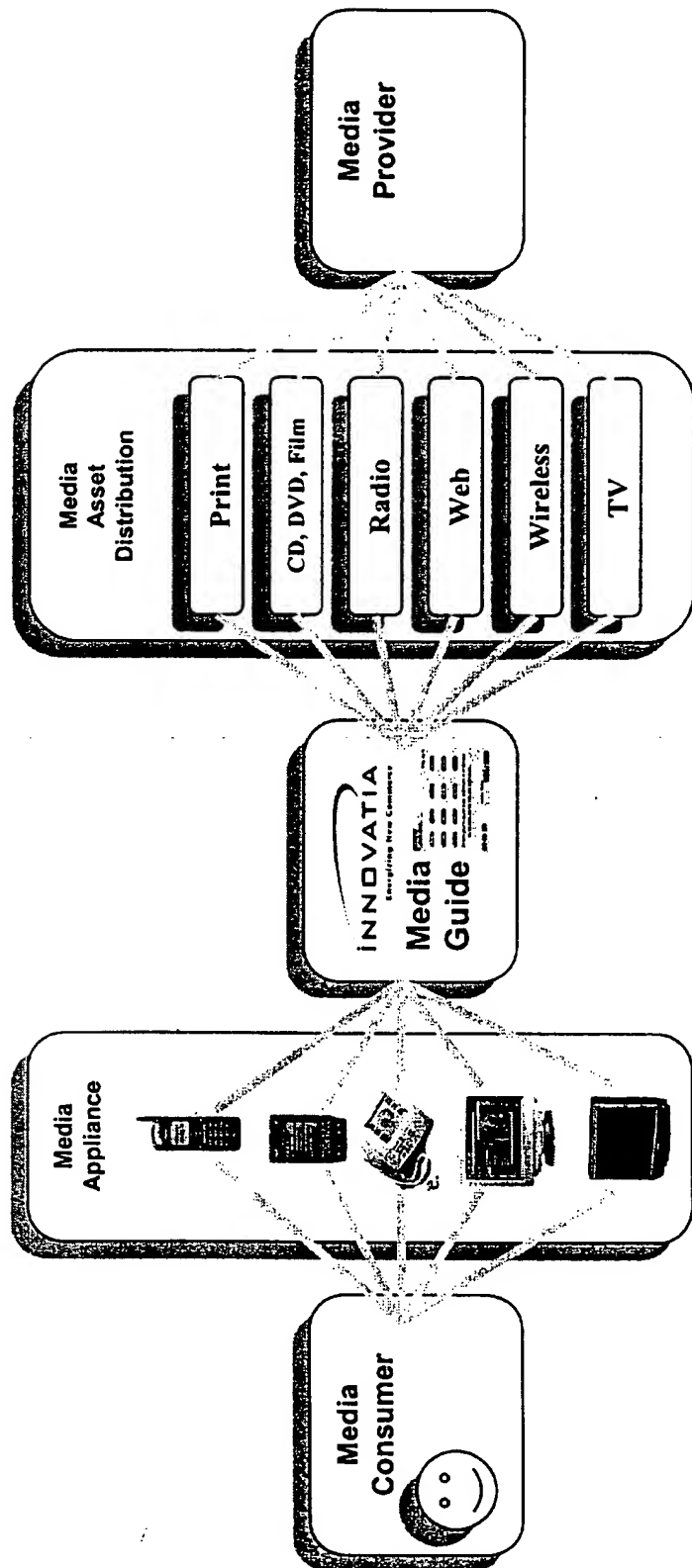
FIGURE
9

FIGURE 10



Media Guide

Home

Weather

News

Sports

EPG

Video

Film

Television

Music

Program Guide

Web

Radio



News & Info

CBC News



TV

Discovery News



TV

The Globe and Mail The consumer is selecting to view The Globe and Mail website. The FMP will now connect to the Internet to display the specified web site.



Back

Setup

Help

New North Media

New North Media
PROPRIETARY & CONFIDENTIAL

FIGURE 11

COLLIDEASCOPE

Media Guide

News Entertainment Family Food

Life Music NBTel Books

Science Search Sports Web Guide

Choose your favourite topic and discover what's cool
on the tube, on the web and much more...

HOME GUIDE HELP

Interactive. Television.

COLLIDEASCOPE

Friday, July 14

Figure 12

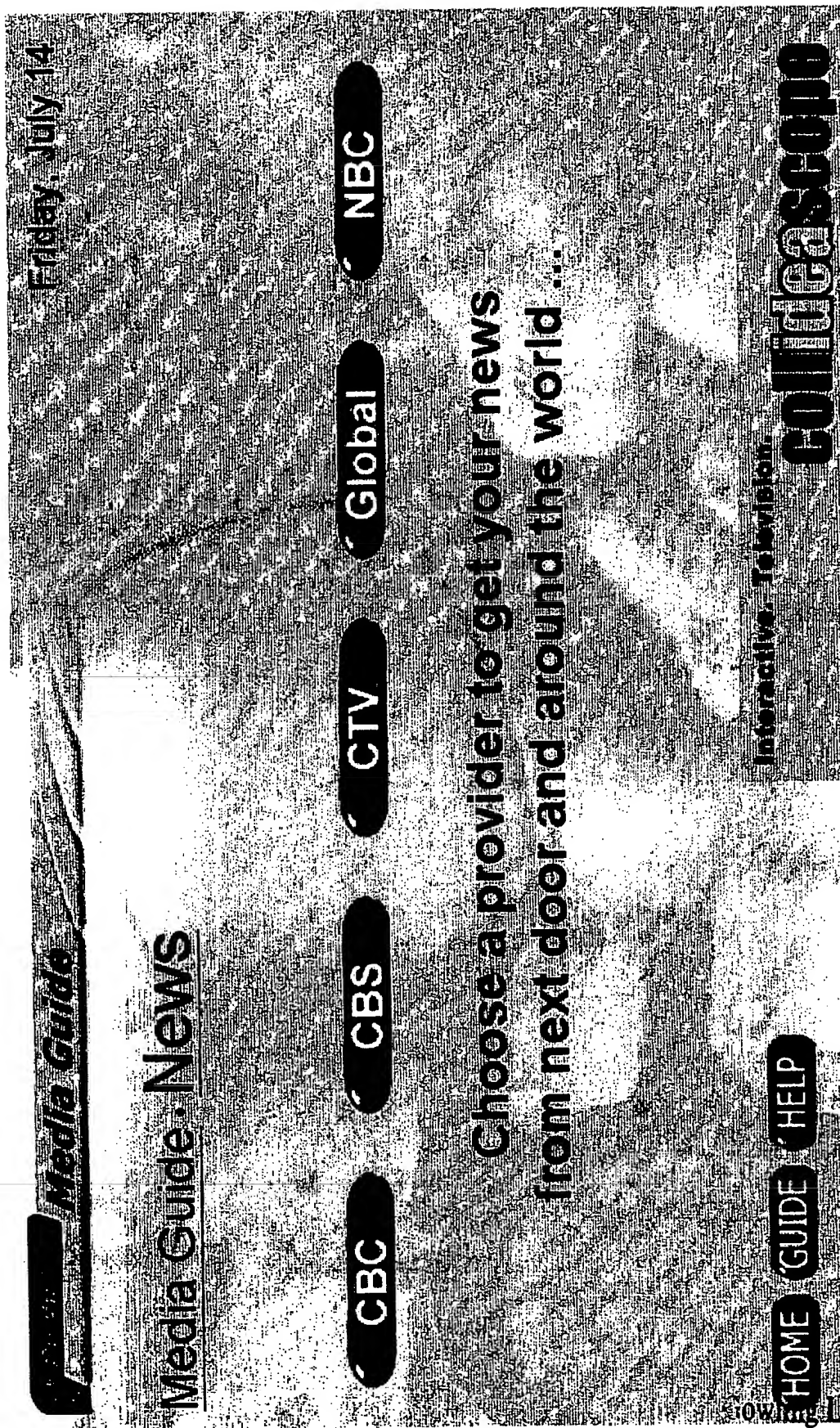


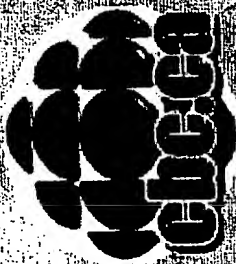
FIGURE 13

Media Guide

Friday, July 14

Media Guide News. CBC

TV Radio Web IPG



A Blurb About the CBC

This is where information about the CBC would go. This is where information about the CBC would go. This is where information about the CBC would go. This is where information about the CBC would go. This is where information about the CBC would go.

HOME GUIDE HELP

Interactive Television

colideascene

FIGURE 14

Friday

Media Guide • News.CBC.Radio

FT

Radio

Web

Q

- CBC Radio 1 CBC Has Two Radio Stations
Moncton**
- CBC Radio 1 CBC has two radio stations. CBC has two radio
Saint John stations. CBC has two radio stations. CBC has two
radio stations. CBC has two radio stations.**
- CBC Radio 2
Moncton**
- CBC Radio 2
Saint John**

HOME

GUIDE

HELP

U.S. DEPARTMENT OF AGRICULTURE

CO-IL-IT-9300

FIGURE 5

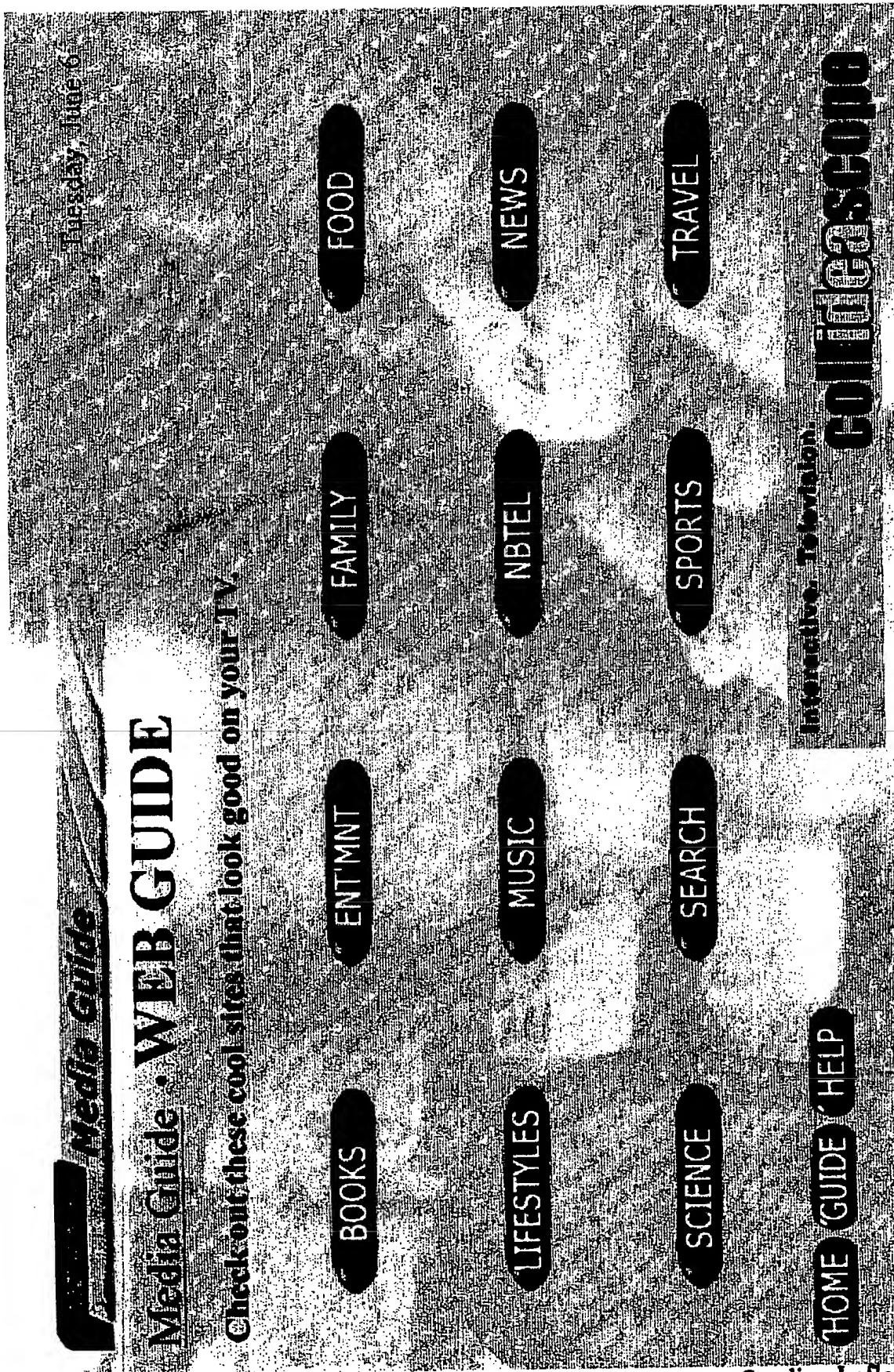


FIGURE 16

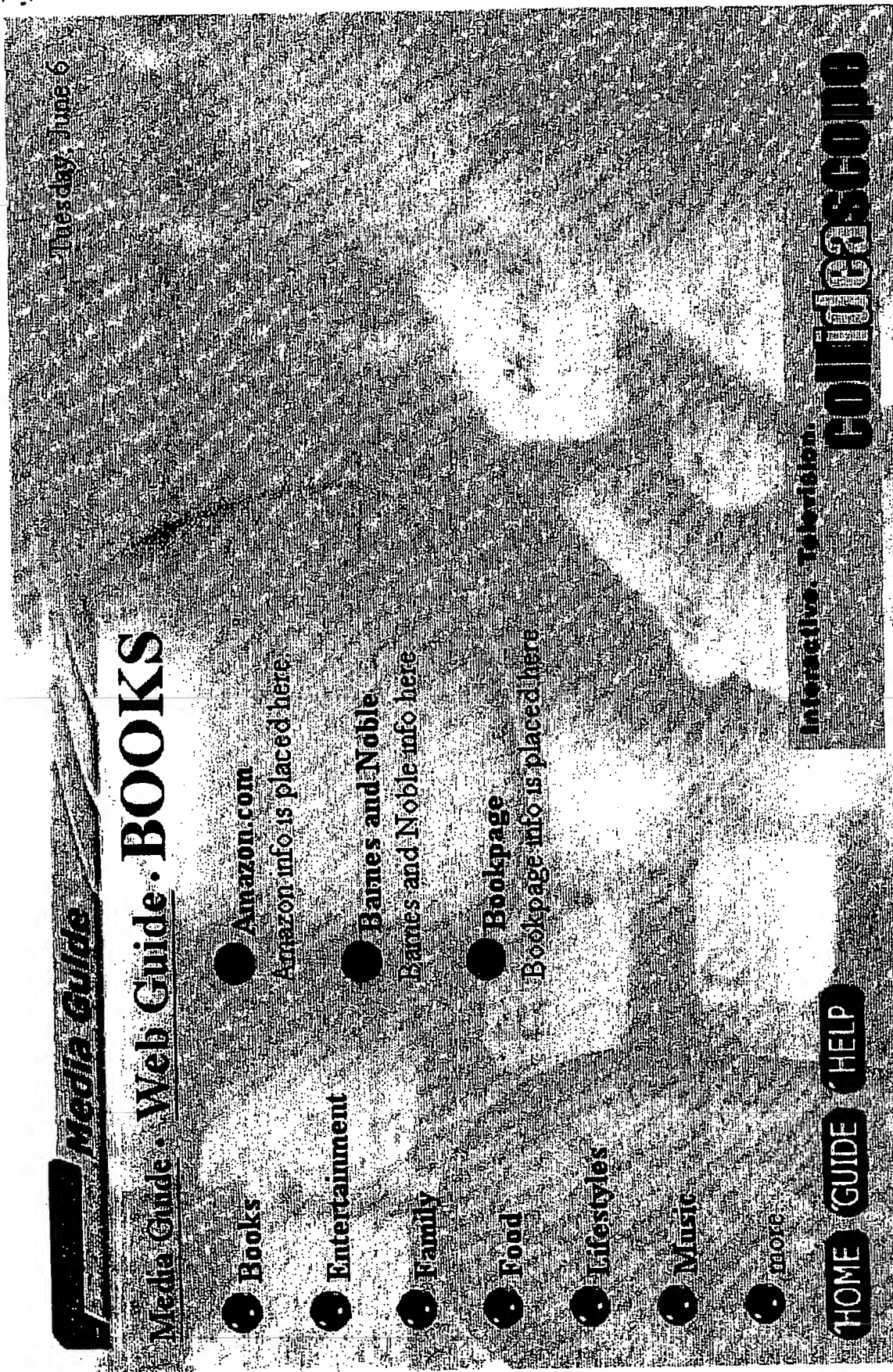


FIGURE 17